

FACT SHEET: Building a Carnivorous Plant Bog

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Excerpted from an on-line article by the Georgia Endangered Plant Stewardship Network via Ron Determann, Atlanta Botanical Garden, <http://atlantabotanicalgarden.org>

Materials needed

- Pond liner or roofing liner, at least 9' x 11' (for a 5' x 7' bog)
- Builder's sand, approximately 1¼ ton (carpenter's sand is ok, do not use play box sand)
- Sphagnum moss, 4 bales of 3.5 cubic feet each
- Peat moss, 6 bales of 3.8 cubic feet each (decomposed sphagnum moss, found at local nursery)
- Two soaker hoses
- Garden hose, shovels, rake
- Small rocks (pebbles) and large rocks
- Two 5/8" brass boiler drains/spigots; use 15/16" paddle drill bit to drill holes in rain barrel



- Wheel barrel
- Camera with film
- Tool to cut roots if bog is near trees (Don't cut roots larger than your thumb. Work around them or you could kill the tree.)
- Place to dump soil
- Rubber boots and dust mask
- Measuring tape

Choosing the site (Sun, Slope, Safety, and Water) Pitcher plant bogs require full sun. Western sunlight, the more intense of the day, is especially important for good growth. Choose a site which gets at least direct sun to the ground (not filtered through trees) in the afternoon. Choose a site with the slightest slope if possible (one inch slope per three feet or less is ideal). If your land is flat, you can create an artificial slope when you dig the hole. Do not choose a site that has a steep slope! You don't want chemicals to wash into your bog after it rains. Bogs are very sensitive to chemicals (fertilizer, herbicides, pesticides, parking lot oil and grease runoff). Locate your bog near a water source (rain barrel or cistern).

Digging the Hole Design your bog on paper. Lay your garden hose on the ground or spray ground with spray paint to mark this shape on the ground. Dig a hole 5 x 7 feet wide and 18" deep. The sides should be gently sloping so the pond liner can easily lay over it. Remove excess dirt away from the bog for use elsewhere. Identify the high end and low end of the hole. If your site does not have a slope, you will want to create a slight slope along the bottom of the hole (helps with drainage). The slope should allow the high end to be closest to your water source. That is where the perforated pipe is buried for watering your bog. The low end of the hole is where the run-off water will go. The lower end of your bog will always be wetter than the higher end. Remove all rock, sticks, roots, or any other sharp objects from the hole. Make the bottom and sides as smooth as possible. Pat smooth with hands.

Laying the Liner Keep the liner folded or rolled and lay the roll across the hole. Unfold the liner, centering it in the bottom of the bog. Make sure the liner covers the entire hole evenly. Lay the liner as flat and smooth as possible against the sides and bottom of the hole. Some folds are inevitable, just smooth and fold them neatly. Cut several slits into the liner for drainage. Leave at least a 12 inch lip of the liner all the way around the top of the bog. This can be cut and removed later, but do not cut it now! The extra material is needed for securing your liner with rocks and sand.

Filling the Bog with Sand Fill the bottom of the bog with 12 inches of coarse builder's sand (fill to 6" from the top of the hole). Do not use play box sand which is too fine. Water the sand by soaking it with a garden hose. The water will settle the sand. Once wet, let the sand sit for 15 minutes. Smooth the wet sand. If your slope is too great (watering appears to rush to the low end), add or remove sand in different areas.

Watering the Bog When watering the bog from a rain barrel, use soaker hoses connected to the spigots on the barrel. One end will have a "stop block" (prevents water from flowing out the end), and the other end will have a "hose connection". Lay one soaker hose around the upper end of your bog in an arch on top of the sand covering the top lip of the liner (just within the rocks or logs anchoring the liner). The hose should be laying around the edge where the peat and sand begins in the hole. Bury the longer soaker hose 2" down into the sand covering it with sand completely so it is not exposed to the sun. Leave the end of the soaker hose sticking out so you can get to it easily. When the rain barrel spigot is turned on, water will wick through your bog following the slope to the low end where excess water will run out. You could also use this idea with a cistern, but using perforated PVC pipe with a stop block and a quick connect instead of a soaker hose.

Filling the Bog with Peat On a tarp next to the bog or on a cement surface nearby, mix peat (which is decomposed sphagnum moss) with sand in the ratio 3:1 (peat:sand). This is the material your bog plants will actually grow in. This combination is acidic, and contains very little nutritional value. Peat moss is also able to hold several times its own mass in water, so it will keep your plants properly wet. Peat is extremely light and easily airborne. You may want to wear a dust mask when pulling it out of the bag and breaking up the clumps. Dampen the mix slightly with water to make it heavier. Load your peat/sand mix into the bog using shovels. Fill it to the top, even with the edge of your bog. Smooth the surface of the bog with the bottom of a rake. Water in the peat/sand mixture at the high end using a rain barrel or cistern. The bog will settle, and you may need to add more peat/sand mix to bring the surface even with the edge of your hole. The water should flow from the high end to the low end. It is OK if water pools at the low end, but should eventually flow out of the low end onto the ground. Once you have the bog well watered, turn off the hose and let the bog settle for 24 hours. Top-dress the bog with 1-2" of sphagnum moss.

Securing the Liner Line the bog all around the upper lip with sand. No liner should be exposed to the sun as sunlight will rapidly break down the rubber. Lay large stones around the top of the bog on the sandy edge. This will hold down and define a boundary for the bog so people won't walk in it.

Planting the Bog Bog species and pitcher plants can be planted in the same way. Remove the plant from the tray and gently loosen the roots so they extend their full length. Dig a hole the length of the roots and suspend the plant within this hole with your hand. The crown of the roots (where the roots connect to the plant stem and leaves) should be even with the top of the hole. You do not want to bury the crown below the soil where it can rot or have it sticking up above the surface where it will dry out. Press the soil all around the roots with your fingers, planting it firmly. Once you are through planting the bog, immediately turn on the rain barrel or cistern water source and water the bog well for 30 minutes. Until your plants are established, you will need to water the bog daily for 15 to 30 minutes in the morning. You do not need to water the bog on days that it rains. (Note: For future watering, use the index finger test. If the bog is damp when you put your index finger through the sphagnum moss and into the bog, do not water.) The pitcher plants may not elongate or grow tall right away. First they will establish their roots. Then, they will grow more pitchers. Do not fertilize your bog, ever! Plants will grow and bloom, then you can collect seeds and share them with your friends!

For more information, see also: <http://www.sarracenia.com/faq.html> (Website of the Carnivorous Plant Society), *The Savage Garden: Cultivating Carnivorous Plants*, by Peter D'Amato, *Carnivorous Plants*, by Adrian Slack, and *Carnivorous Plants*, by Paul Temple.